

I CLAIM:

1. An apparatus for germicidally cleansing a gas comprising:
a chamber positioned in a duct system having an inlet opening to allow the gas to enter the chamber and a separate exit opening to allow air to exit the chamber;
a helical ultraviolet light source positioned in the chamber;
the internal walls of the chamber and grille being made from an ultraviolet reflective material and the walls of the chamber shaped to direct ultraviolet light into and upon the walls of the chamber uniformly throughout the chamber and such that the energy in the chamber accumulates over time to reach a uniform steady state energy level greater than that emitted by the UV source; and
an adapter to mate the chamber with the duct system.
2. An apparatus according to claim 1, wherein a substantial portion of the chamber is in the shape of a truncated ellipsoid.
3. An apparatus according to claim 2, wherein the pitch of the helical ultraviolet light source is least at the center of the chamber and greatest at the points farthest from the center of the chamber.
4. An apparatus according to claim 3, wherein the ultraviolet light source is positioned along the major axis of the chamber.
5. An apparatus according to claim 4, wherein the ultraviolet light source is composed of a series of individual ultraviolet lamps which extend for one and a half turns each.
6. An apparatus according to claim 5, wherein the connectors of the lamps are aligned with each other.
7. An apparatus according to claim 4, wherein the connectors of the lamps are positioned 180 degrees from each other for each lamp.

8. An apparatus according to claim 4, wherein an ultraviolet transparent conduit is positioned along the major axis of the chamber inside the coils of the helical light source.

9. An apparatus according to claim 1, where in the helical ultraviolet light source is positioned in a UV transparent cylinder;

wherein the helical ultraviolet light source is not in direct contact with the gas or a fluid transported through the chamber.

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